

V.—*A new Species of Simulium from Assam.*—By DR. EDWARD BECHER, Vienna. Communicated and translated by the NATURAL HISTORY SECRETARY.

[Received October 13th;—Read November 5th, 1884.]

(With Pl. XIV.)

SIMULIUM INDICUM, nov. spec.

♀. *Caput et thorax brunneo-nigra; thorax convexus, scutellum nigrum; palpi 4-articulati, fusci; antennae 10-articulatae, fuscae; alae magnae, latae, nervi costales crassiores quam reliqui; pedes varii: femora et tibiae in basi flavae, in apice fuscae, tarsi fusci; abdomen breve, segmentum primum latissimum; hoc et trium sequentium pars ventralis flavicans, cætera subfusca. Longitudo 3 mm.*

Head free, standing pretty low; brown-black; forehead broad, clypeus short, nearly vertical; eyes kidney-shaped, with a moderate notch for the reception of the first antennal joint. Ocelli wanting. Antennæ dark brown-black, 10-jointed; the second joint distinctly constricted off from, and equal in length to, the first, and longer than the rest; the three succeeding joints broader than long, telescoped into one another; the four next equally long and broad, each tapering to the apex, the last joint pointed at the apex, somewhat longer than the preceding.

Proboscis salient, dark; mouth-parts differing in matters of detail only from those of the typical form; palpi dark, 4-jointed, the basal joints lighter; the first joint short, the palp-scale resembling it and thus apparently representing a fifth joint, the second and the third joints almost of the same length, the fourth $1\frac{1}{2}$ times as long as the third, all the joints pretty equally broad and moderately bristly.

Thorax brown-black, high-arched, without transverse suture, tergum and scutellum velvet-black, somewhat shining, sides of the thorax lighter, especially near the coxæ of the first pair of legs.

Wings* large and broad, the marginal vein thick, terminating before the apex of the wing, the anterior branch of the first longitudinal vein

* In order to facilitate comparison with other descriptions, the usual nomenclature of the veins of the wings is retained in the following description. According to Adolf's theory, the veins should, in consideration of Brauer's work on this subject, be named as follows:—the anterior branch of the first longitudinal vein = the auxiliary vein (*Hilfsader*); the principal branch of the first longitudinal vein = the first longitudinal vein; the small transverse vein = the trunk of the third longitudinal vein; the third and the fourth longitudinal veins = the third longitudinal vein; the succeeding fold = the fourth longitudinal vein; the fifth and the sixth longitudinal veins = the fifth longitudinal vein; the fold = the anal vein (*Conf.* Brauer, Denkschr. d. Kais. Akad. d. Wissen. Wien, Math. Nat. Cl. Bd. xlv, 1882, p. 90, and Wiener Ent. Zeitschr. ii, 1883, Heft 2, p. 27).

short, scarcely reaching the middle of the wing, the principal branch longer, running out near the third longitudinal vein; the second longitudinal vein wanting; the third branching off from the first before the middle, running into the marginal vein far before the apex of the wing; the three first veins thick and distinct; the succeeding ones very weak; the fourth longitudinal vein forked at the so-called small transverse vein, the prongs of the fork hence much longer than the handle, the upper prong slightly bisinuous, the lower almost straight; the fifth vein straight, a little bent outwards; the sixth strongly bisinuous; the axillary vein not reaching the hinder margin, slightly sinuous; between the fourth and the fifth veins a straight, very distinct fold; a similar though weaker fold behind the sixth vein. Halteres uncovered, dazzling white.

Legs: coxæ dark, trochanter long, yellowish; femora and tibiæ throughout black-brown, metatarsus lighter at the base, a little shorter than the tibia; all the tibiæ with spurs, metatarsus of the third pair of legs notched at the apex (figs. 5, 6), those of the two first pairs truncate, spurred; the fourth tarsal joint expanded into a heart-shaped figure; the fifth longish clavate, with long divergent curved bristles, which in the first pair of legs are seated on the *third* tarsal joint; legs thickly covered with hairs, particularly on the tarsus, unguis small, pulvilli rudimentary.

Abdomen short, of eight segments; the first segment is the broadest and, like the sternal parts of the three succeeding segments, yellowish; the genital parts a little projecting.

The above-described species of *Simulium* is the first that has yet been made known from Asia, as only a few non-European forms have hitherto been described, whereas the number of European species is not inconsiderable.

The larvæ and the pupæ (figs. 11, 12, 13) of the European species live in water; the latter in conical (*tütenartigen*) cocoons attached to stones, stalks of grass, confervæ, and the like.

EXPLANATION OF PLATE XIV.

Fig. 1. *Simulium indicum*, ♀, × 8. Fig. 2. Wing × 8. 3a. A leg of the first pair × 15. Fig. 3b. Tarsus of the same leg × 60. Fig. 4a. A leg of the second pair × 15. Fig. 4b. Tarsus of the same × 60. Fig. 5a. A leg of the third pair × 15. Fig. 5b. Tarsus of the same × 60. Fig. 6. Head from in front × 30. Fig. 7. Antenna × 90. 8. Mandible × 90. Fig. 9. Hypopharynx × 90. Fig. 10. Maxilla and palp × 90. Fig. 11. Larva of *Simulium ornatum*, Mg. × 6. Fig. 12. Pupa of *Simulium* sp. in its conical cocoon.

